DOCUMENT RESUME

ED 034 288 24 EA 002 586

AUTHOR Hallam, Kenneth J.
TITLE Towson Educational Research Training Program. Final Report.
INSTITUTION Towson State Coll., Baltimore, Md.
SPONS AGENCY Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO BR-6-2076
PUB DATE Aug 67
GRANT OEG-1-6-062076-1368
NOTE 10p.

EDRS PRICE EDRS Price MF-$0.25 HC-$0.60
DESCRIPTORS *College Programs, Data Analysis, Data Collection, *Educational Research, *Educational Researchers, Measurement Techniques, Program Evaluation, Research Design, Research Problems, Research Projects, *Research Skills, *Training

ABSTRACT

The 1966-67 Towson Undergraduate Research Training Program consisted of: (1) three 4-credit hour courses in the basic concepts of measurement, experimental design, and data analysis; (2) a 4-credit hour course in the research literature of education; (3) a 6-credit hour research practicum in the summer session; and (4) a colloquium series, throughout the 12 months of the program, in which invited experts discussed their research specialities. During the program the trainees: (1) acquired the ability to read, analyze, interpret, and evaluate educational research; (2) acquired the basic concepts and techniques necessary to initiate and conduct research projects in education; (3) acquired the prereguisite knowledge and skills appropriate to graduate work in educational research; and (4) designed, conducted, analyzed, and reported a research project. The Towson Program was restricted to 15 trainees. The academic year began September 15, 1966 and ended May 31, 1967. The summer portion of the program was from June 12 to July 28, 1967. (Author/DE)

BR 6-2076
PA 24
OE/BR

ED034288

FINAL REPORT

Project No. 6-2076
Grant No. OEG-1-6-062076-1368

TOWSON EDUCATIONAL RESEARCH TRAINING PROGRAM

August 1967

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

EA 002 586

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Towson Educational Research Training Program

Project No. 6-2076
Grant No. OEG-1-6-062076-1368

Kenneth J. Hallam

August 1967

The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Towson State College

Baltimore, Maryland

Introduction

The 1966-67 Towson Undergraduate Research Training Program consisted of: (1) three four-credit hour courses in the basic concepts of measurement, experimental design and data analysis, (2) a four-credit hour course in the research literature of education, (3) a six-credit hour research practicum in the summer session, (4) a colloquium series, throughout the twelve months of the Program, in which invited experts discussed their research specialities.

During the Program the trainees: (1) acquired the ability to read, analyze, interpret and evaluate educational research, (2) acquired the basic concepts and techniques necessary to initiate and conduct research projects in education, (3) acquired the pre-requisite knowledge and skills appropriate to graduate work in educational research, (4) designed, conducted, analyzed and reported a research project.

The Towson Program was restricted to 15 trainees. The academic year began September 15, 1966 and ended May 31, 1967. The summer portion of the Program was from June 12, 1967 to July 28, 1967 inclusive.

Description of the Program

Fall semester:

Measurement:

1. Logic of measurement--nature and development
2. Nature of numbers
3. Frequency distributions
4. Central tendency measures
5. Variability measures
6. Normal probability curve
7. Standard scores
8. Correlation measures
9. Reliability and validity measures
10. Application
    a. intelligence
    b. academic achievement
    c. aptitudes
    d. personality
11. Rating techniques

Introduction to Experimental Design:

1. Rationale of science: assumptions, constructs, laws, models, variables
2. Meaningfulness, problems
3. Non-experimental research techniques
4. Hypothesis
5. Experimental method, control
6. Sampling theory and probability
7. Logic of null hypothesis
8. t-test and Chi-square

Spring semester:

Research on Teaching:

1. Dependent variables
    a. Kinds of learning
    b. Educational achievement
2. Independent variables
    a. Student variables
    b. Curricular variables
    c. Teacher variables
    d. Situational variables
    e. Institutional variables
3. Identification of research problems--literature review and development of proposal for summer project

Advanced Design:

1. Statistical inference
2. Analysis of variance
    a. Randomized one-factor design
    b. Randomized multi-group design
    c. Randomized multi-factor design
    d. Treatment by blocks design
    e. Repeated measurements design
    f. Mixed designs
3. Non-parametrics

Summer session:

Research Practicum:

During the seven-week summer practicum, each trainee completed the review of literature on his research topic, arranged the experimental situation (subjects, room, apparatus, etc.) collected his data, analyzed and interpreted the results, and wrote a journal-like article on the study.

During the first weeks of the practicum, each trainee presented his research proposal to the entire group for critical evaluation and suggestions. In a similar fashion, in the final weeks of the practicum, the trainees presented the results and conclusions from their projects.

It is expected that several of these studies will result in publications in educational research journals.

Colloquium:

Throughout the Towson Program guest researchers conducted seminars in their areas of specialization. Guests included experts from such departments as sociology, psychology and education at Towson State College; from regional institutions such as the Johns Hopkins University and the Maryland State Department of Education; and nationally known figures including Professor Robert Travers from Western Michigan University and Professor Edward Fry from Rutgers, the State University.

AERA Conference:

The trainees, with the support of the Program, attended the 1967 Annual Conference of the American Educational Research Association.

Modifications

The curriculum, objectives, schedule and staff of the Towson Educational Research Training Program remained much as was projected in the approved proposal. There were some staff changes. As was approved by the Office of Education, Dr. Kenneth Hallam replaced Dr. Harold Moser as Project Director. Two part-time additions were made to the instructional staff: Dr. Howard Egeth, who was also a member of the Psychology Department of the Johns Hopkins University and Dr. Mary Suydam, who was also a member of the Psychology Department at Towson State College. These additions only bolstered the strength of the teaching staff. The quality of the instructional staff is reflected in the fact that all staff members had Ph.D.'s in either psychology, education or educational psychology and had published in one or more of these fields.

Evaluation of the Program

1.a. The basic objectives of the Towson Program were sound and required no substantive modifications. It is felt that the trainees did in fact acquire the abilities, knowledge and skills listed as the objectives of the Program.

b. The proposed content of the Program also proved to be sound. No major changes were made. In future programs of the same duration, perhaps more emphasis should be placed on general information about education especially if trainees were to be selected from the college at large. The course in Measurement was found to be desirable but not essential to this type of program. The Research Practicum was found to be highly beneficial. It provided a concrete opportunity for the students to integrate the information and skills acquired in earlier courses. The Practicum also provided a high degree of realism and more than any other aspect of the Program instilled a desire to conduct research in the future.

c. A very capable staff was secured for the Program. All members of the staff had Ph.D. degrees in education, psychology or educational psychology and each had published research articles in one or more of these fields.

An effort was directed toward having an inter-departmental, inter-institutional staff. Although this diversity of personnel probably provided a healthy spectrum of opinion, information and procedure to the students, it was difficult to maintain a high level of communication among staff members from different institutions. It was also more difficult for instructors from other institutions to provide the type of individualized supervision expected in the Program.

The effect of the guest speakers employed for the colloquium would, of course, be difficult to evaluate but it is felt that these seminars substantially enhanced the motivation of the trainees in addition to providing knowledge and offering an additional note of realism to the Program.

d. The major problem in selecting trainees was the late arrival of the announcement of the grant award. Even under these conditions, the staff was largely satisfied with the trainee selection. For the most part the students were academically capable (had a B or higher cumulative grade point average) and were highly motivated. In the future, trainees would be selected on the same basis, i.e., high academic ability and apparent interest in educational research. Especially where applicants are accepted from all areas, a qualifying interview is essential.

e. The timing and length of the Program were found to be essentially sound. There were, however, problems resulting from restricting participation to seniors. Some of our trainees only became convinced that they should go on to graduate school in educational research after having completed most of the Program. By that time, it was of course too late for admission into graduate school for the following year. Furthermore, students who had to complete their student teaching in the senior year could not participate in the Training Program because student teaching is itself a full load.

During the 1966-67 academic year Towson State College was suffering from an extreme space shortage and therefore no room could be reserved exclusively for the Training Program. If this had been possible probably an even higher esprit de corps would have resulted or at least the high esprit de corps found during the latter part of the Program would have developed earlier.

f. The most severe weakness found in the budget arrangement was that the institutional allowance was reduced with the withdrawal of trainees even though expenses were relatively fixed. Since one can never be sure about the withdrawal of students, money had to be reserved for such a contingency until the final phase of the Program. Such funds could have been well used during the early phases of the Program.

2. As mentioned above a high caliber staff was assembled for this Program. In addition, the staff as well as the trainees, were probably subjects of a potent Hawthorne effect for only instructors who were interested in such a Program were employed.

By the end of the Program, especially during the final weeks of the summer Practicum, the trainees showed unusual enthusiasm. For example, students were found to be spending long hours on hot summer days calculating and attempting to interpret their results with little prompting from the staff. In fact, special arrangements had to be made so that the trainees could use college rooms and laboratories in the evenings and on weekends. The staff found this to be atypical behavior for undergraduate students.

The policy of admitting students from any area of concentration was found to be challenging, frustrating and exciting. Without a doubt this policy placed strain on the Program. With respect to relevant experience the students were rather heterogeneous at the beginning of the Program. The staff, however, attempted to use this diversity as an asset instead of a liability. The trainees were divided into subgroups each of which was led by that student who had the strongest background in the area. It was also highly encouraging to witness students from such areas as modern language and English develop enthusiasm for and skill in educational research.

The trip to the American Educational Research Association Convention in New York City was thought to be a definite asset to the Program. In addition to learning about new developments in theory, methodology and procedure, researchers who had previously been mere names in a textbook came to life and took on greater relevancy for the students. The Convention also alerted the students to the diversity of problems and techniques within educational research.

The colloquium series was found to be particularly effective in bringing the trainees up to date in important areas of educational research, acquainting them with ongoing research and in providing them a variety of researchers with which to identify. The colloquium series also offered the personal presentation of more diverse philosophies, techniques and approaches than would be possible by a permanent staff.

3. The most important change recommended for future undergraduate educational research training programs is that the students should be introduced to the content of educational research earlier in the Program. In the Towson schedule, such material was not assigned until the second semester. Although it is difficult for students to read research without an introduction into methodology, an early introduction to such content would help the students place the specifics in perspective and might enhance motivation especially during the early stages of such a program. In addition, the earlier such material is presented the longer the students have to plan their own projects. That is, students are generally unable to identify or select a research project until they are familar with current research results.

A change of this type will be introduced into the 1967-68 Towson Program.

4. The staff of the Towson Program was highly enthusiastic about its results. As suggested earlier, we had not seen similar groups of undergraduates show such interest nor are we familiar with undergraduates who are as capable in educational research as are the graduates of the Towson Research Training Program.

Most of the Towson trainees plan to: immediately enter an educational research or psychology graduate program; immediately begin work in research; or teach or work elsewhere for one year and then enter graduate school. Virtually every trainee left the Program highly motivated to do graduate work. The caliber of the research studies completed by the trainees compares favorably in research sophistication to that of graduate students. In fact, several of the research studies will most likely be published in educational research journals.

5. The most pertinent recommendation to be made is that USOE reconsider the support of undergraduate programs. This is desirable from several points of view. Some such programs represent novel ways of introducing research into the teacher training curriculum and fresh ways of encouraging individuals of diverse disciplines into educational research. It seems unlikely that graduate programs in educational research will be able to select sufficient high caliber students unless educational research is popularized at the undergraduate level. Currently there is essentially no motivation for undergraduates from any field including education to consider educational research as an occupation or as a graduate program.

Program Reports

1. Publicity. A news release (see attachment A) was distributed to all newspapers in the Maryland-Delaware Press Association and to all radio stations in the metropolitan Baltimore area. This release was also distributed by the Baltimore office of the Associated Press. It was, therefore, printed in several newspapers of nearby states in addition to most Maryland papers.

Since only Towson students could participate in the Program, announcements were not sent off campus except when requests for information about the Program were received. For copies of announcements and applications see attachments B and C.

2. Application Summary

a. Approximate number of inquiries from prospective trainees:	34
b. Number of completed applications received:	26
c. Number of first rank applications (applicants who were well qualified):	20
d. Number of applicants offered admission:	15

3. Trainee Summary

a. Number of trainees initially accepted in program:	15
Number of trainees enrolled at the beginning of program:	15
Number of trainees who completed entire program:	11
Number of trainees in program at completion of program:	14
b. Categorization of trainees:	N/A

4. Program Director's Attendance

a. What was the number of instructional days for the program?	180
b. What was the percent of the days the Director was present?	60

5. Financial Summary

	Budgeted	Expended or Committed
a. Trainee Support	14,500*	13,050
(1) Stipends	14,500	13,050
(2) Dependency Allowance	N/A	N/A
(3) Travel	N/A	N/A
b. Direct Costs	14,500*	12,564
(1) Personal	N/A	11,580
(2) Supplies	N/A	200
(3) Equipment	N/A	None
(4) Travel	N/A	784
(5) Other	N/A	None
c. Indirect Costs	N/A	N/A
TOTAL	29,000	25,614

* With 15 trainees (Amount left with some withdrawals: $13,050)

Attachment A

FROM: PAUL CASE
OFFICE OF INFORMATION AND PUBLIC SERVICE
TOWSON STATE COLLEGE
BALTIMORE, MD. 21204
823-7500, EXT. 269

RELEASE: IMMEDIATELY

SUBJECT: GRANT

BALTIMORE -- Towson State College has been awarded a $28,000 research training grant by the U.S. Office of Education, Bureau of Research.

The grant, given to nine U.S. colleges, will permit 15 undergraduates to take courses, conduct projects and consult with guest lecturers on educational research on the Towson campus this fall and next summer.

Each student will receive a $500 stipend and $75 a week for summer research projects during the first year of the grant.

Courses in measurement, statistics, experimental design and educational research will be given at Towson by Dr. William B. Gillooly, assistant professor in educational psychology at Johns Hopkins University; and Dr. Kenneth J. Hallam, director of research and evaluation, and Dr. Frank B. Murray, assistant professor in experimental psychology, both of Towson.

###

Attachment B

Towson State College

offers

Undergraduate Training

in

EDUCATIONAL RESEARCH

The Towson Educational Research Training Program* consists of:

Two four-hour courses each semester in the basic techniques and concepts of educational research.
A six-hour, intensively supervised, research practicum in the summer session--for which graduate credit may be received.
A colloquium on educational research. Guest researchers will conduct seminars throughout the year.

The Program focuses on the acquisition of:

Basic techniques and concepts necessary to initiate and conduct research in education.
Ability to read, analyze, interpret, and evaluate educational research.
Prerequisite knowledge and skills for graduate work in educational research.

Eligibility:

Applicants will be selected on the basis of high academic ability and interest.
No prerequisite courses are required. The Program is open to students of all academic areas.
Students must be in their senior year, at the time of participation in the Program, and, if in teacher education, have completed their practice teaching.

Financial assistance:

Participants will receive stipends of $500 for the academic year and $75 a week during the summer session.

Additional information and application forms may be obtained from:

Kenneth J. Hallam, Director
Educational Research Training Program
Towson State College

Program Directors

William B. Gillooly, Ph.D., The Johns Hopkins University
Kenneth J. Hallam, Ph.D., The American University
Frank B. Murray, Ph.D., The Johns Hopkins University

* Supported through a research training grant from the U.S. Office of Education, Bureau of Research

Attachment C

Application Form

for proposed

Towson Educational Research Training Program

September 1966 - August 1967

Please print or type.

1. Name: _____ Age: _____ Marital Status: _____

2. Address: _____ Home phone: _____ College box number: _____

_____

3. Expected date of graduation: _____

4. Check one:

   a. ___ Arts and Science

   b. ___ Teacher Education (check one below)

      1. __ Kindergarten Primary
      2. __ Elementary
      3. __ Secondary
      4. __ Dual Certification

5. Towson major in: _____

   minor in: _____

6. Write a brief paragraph about your immediate plans after graduation, e.g. graduate school, teaching, business, armed services, marriage, etc.

7. List as references the names of two faculty members in your major department:

   a. _____

   b. _____

8. Signature: _____ Date: _____